

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

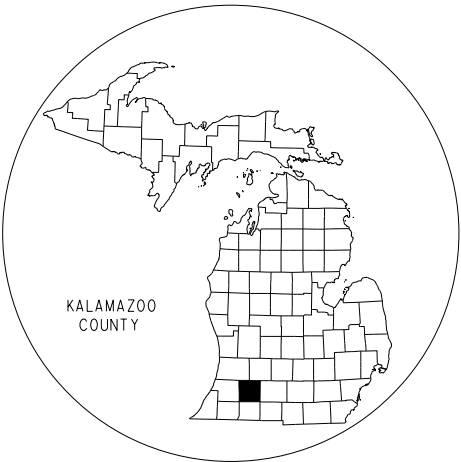
PHYSICAL ROAD NUMBER (PR#) & MILEPOST (MP) DATA ARE FROM MICHIGAN GEOGRAPHIC FRAMEWORK VERSION # 12.

MICHIGAN DEPARTMENT OF TRANSPORTATION

ROUTE: US-131

OSHTEMO TOWNSHIP

KALAMAZOO COUNTY



COUNTY KEY

ROAD	YEAR	TRAFFIC DATA			SPEED DATA		LIMITS
		ADT	DHV	COMM	DESIGN	POSTED	
US-131	2018	48,600	4860	10%	75	70	OVER KL AVE AND AMTRAK RR
	2040	54,200	5420	10%	75	70	

SECTION	CONTROL SEC	JOB NO.
1	39014	122664A
2	39014	

GENERAL NOTES

THE DESIGN OF THESE STRUCTURES (R01-1 & R01-2) ARE BASED ON 1.2 TIMES THE CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATION HL-93 LOADING WITH THE EXCEPTION THAT THE DESIGN TANDEM PORTION OF THE HL-93 LOAD DEFINITION SHALL BE REPLACED BY A SINGLE 60 KIP AXLE LOAD BEFORE APPLICATION OF THIS 1.2 FACTOR. THE RESULTING LOAD IS DESIGNATED HL-93 MOD. LIVE LOAD PLUS DYNAMIC LOAD ALLOWANCE DEFLECTION DOES NOT EXCEED 1/800 OF SPAN LENGTH.

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS, OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE ACCORDING TO THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION 2012 EDITION.

THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:

CONCRETE: GRADE S2	f'c = 3,000 psi
CONCRETE: GRADE D	f'c = 4,000 psi
STEEL REINFORCEMENT	fy = 60,000 psi
STRUCTURAL STEEL:	
AASHTO M270 GRADE 36	Fy = 36,000 psi
STRUCTURAL STEEL:	
AASHTO M270 GRADE 50	Fy = 50,000 psi
STRUCTURAL STEEL:	
AASHTO M270 GRADE 50W	Fy = 50,000 psi

ALL EXPOSED CONCRETE CORNERS SHOWN SQUARE ON THE PLANS SHALL BE BEVELED WITH 1/2" TRIANGULAR MOLDINGS EXCEPT AS OTHERWISE NOTED.

BIDDERS WILL BE FURNISHED WITH SCANNED IMAGES OF PLAN SHEETS OF THE EXISTING STRUCTURE IF REQUESTED.

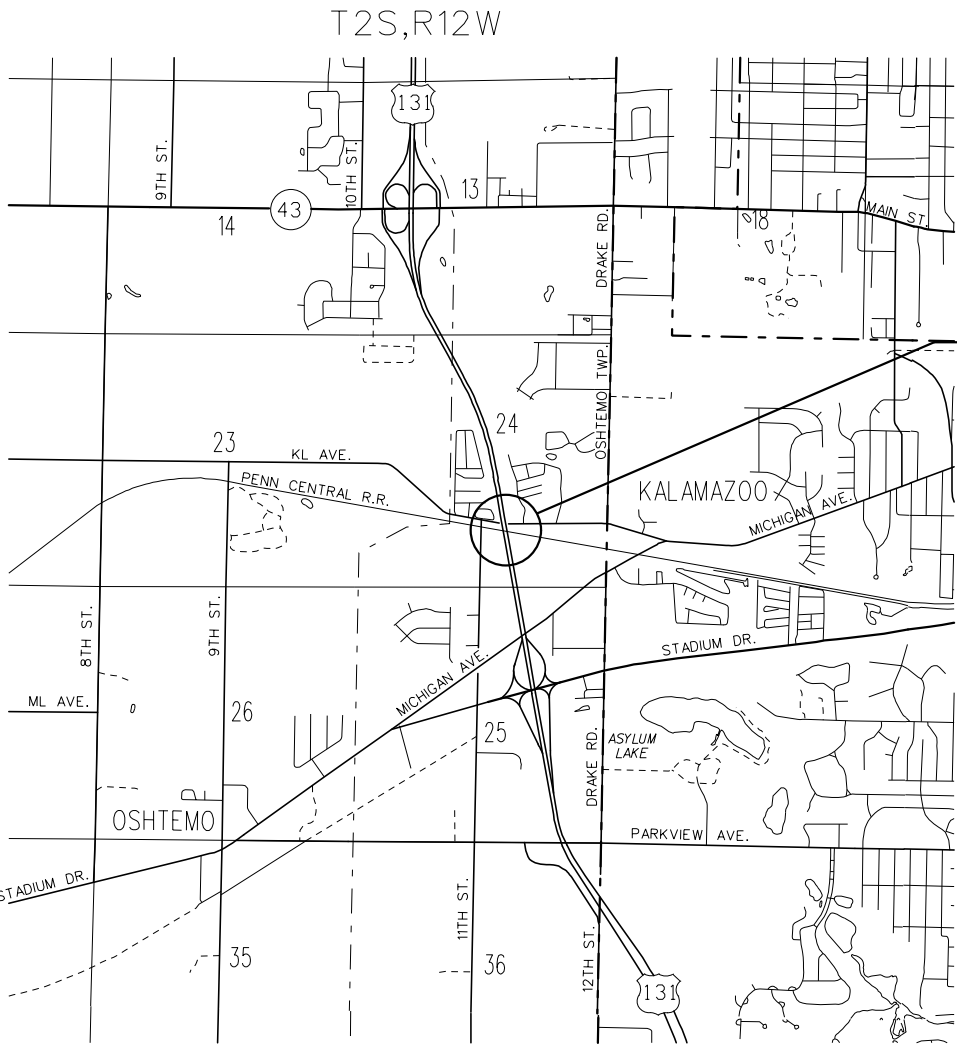
THE BRIDGE PAINT MAY CONTAIN LEAD.

THE DESIGN OF THE FOUNDATION PILING IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:

FOUNDATION PILING (STEEL H-PILING):	
AASHTO M270 GRADE 50	Fy = 50,000 psi
FOUNDATION PILING (STEEL H-PILING):	
AASHTO M270 GRADE 50W	Fy = 50,000 psi

UNLESS OTHERWISE SHOWN ON THE PLANS PROVIDE MINIMUM CONCRETE CLEAR COVER FOR REINFORCEMENT ACCORDING TO THE FOLLOWING:

CONCRETE CAST AGAINST EARTH:	3 IN.
ALL OTHER UNLESS SHOWN ON PLANS:	2 IN.



R01-1/-2 OF 39014
US-131 NB & SB OVER AMTRAK RR & KL AVE
STRUCTURE NUMBER: 4556 (R01-1) & 4557 (R01-2)
JN: 122664A

THE REGULATED WASTE ACTIVITY IDENTIFICATION NUMBERS FOR THIS PROJECT ARE AS FOLLOWS:

CONTROL SECTION	NUMBER
R01-1 & R01-2 OF 39014	MIR000101303

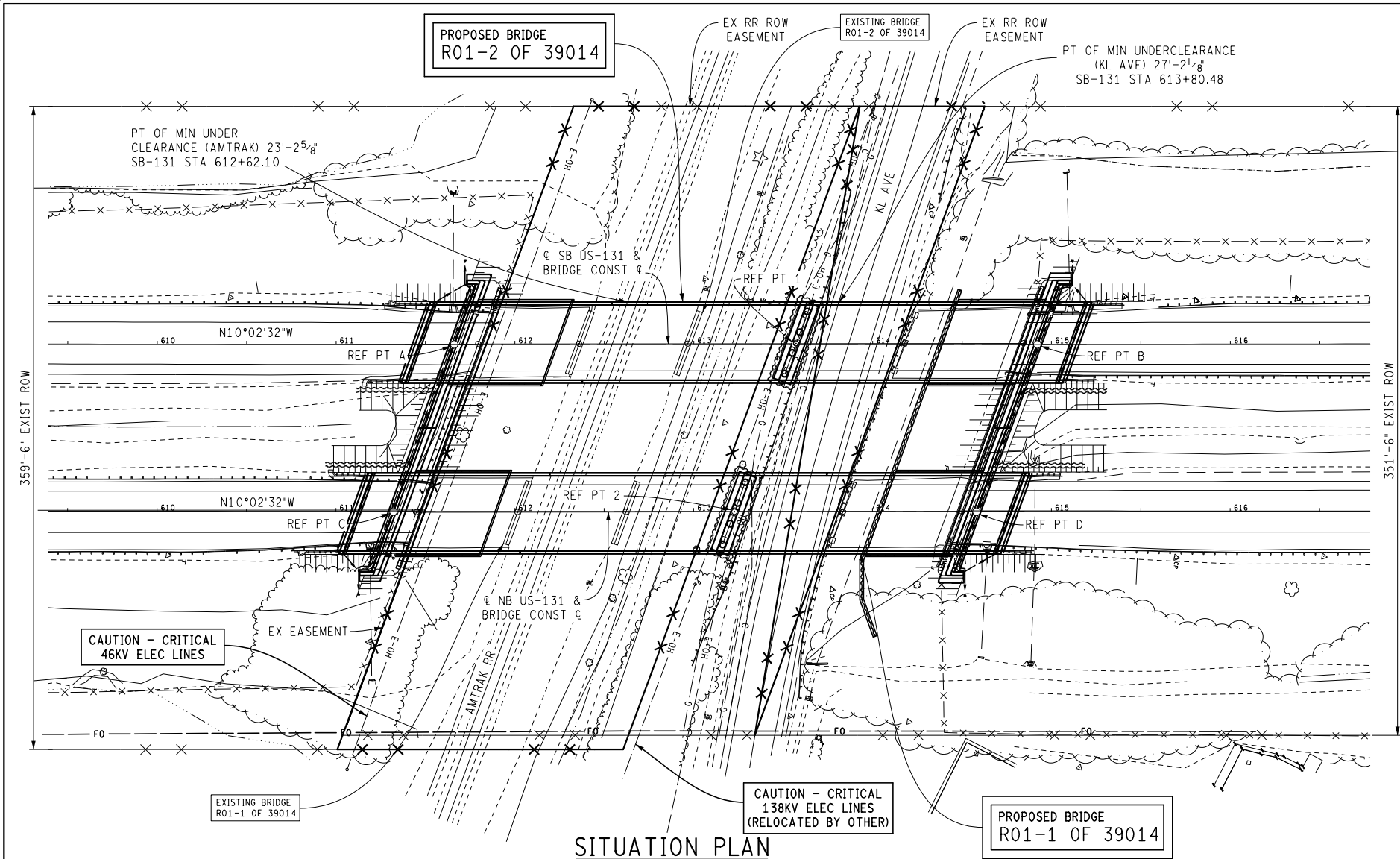
APPROVALS	
RECOMMENDED FOR APPROVAL BY:	
<div>CHARLES F. OCCHIUTO, P.E. - PROJECT MANAGER</div>	
<div>JAMES WOODS, P.E. - CONSTRUCTION ENGINEER</div>	
MICHIGAN DEPARTMENT OF TRANSPORTATION PAUL C. AJEGBA, P.E. - DIRECTOR	
MILES: CONTRACT FOR: BRIDGE REPLACEMENT, APPROACH WORK, TEMPORARY BRIDGE AND MAINTAINING TRAFFIC.	
TITLE SHEET	
DRAWING	SHEET
	SECT

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



NO SCALE

DRAWN BY: D.WILSON	DATE: 08/29/17	CS: 39014
CHK'D BY: R.GEHRCKE CORR BY: SMH	DESIGN UNIT: OCCHIUTO	JN: 122664A
FILE: r01_39014_title.dgn	TSC: KALAMAZOO	



**EXISTING STRUCTURE**

THE EXISTING STRUCTURES ARE 5 SPAN, ROLLED STEEL BEAM BRIDGE WITH A CLEAR ROADWAY WIDTH OF 33 FEET AND LENGTH OF 305 FEET. EXISTING SUBSTRUCTURE SUPPORTED ON CIP PILES.

**SURVEY CONTROL & BENCHMARKS**

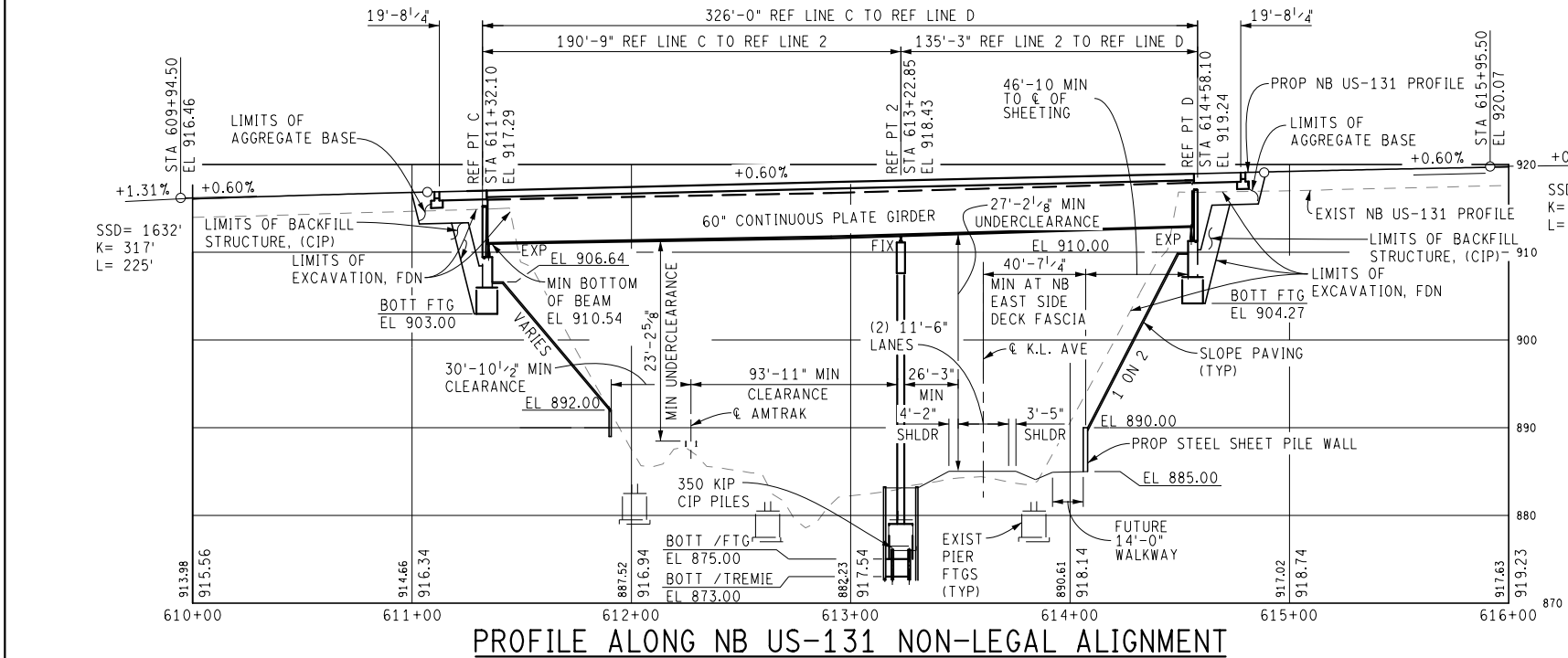
SEE SECT 1 SURVEY INFORMATION SHEET FOR SURVEY CONTROL & BENCHMARKS

**UTILITIES**

SEE SECT 1 PROJECT INFORMATION SHEET FOR UTILITIES

COORDINATES			
SOUTHBOUND	REF PT	NORTH	EAST
	A	286001.12	12774377.24
	1	286188.95	12774343.98
NORTHBOUND	REF PT	NORTH	EAST
	C	285983.91	12774475.24
	2	286171.74	12774441.98

COORDINATES PROVIDED ARE TO ESTABLISH THE GEOGRAPHIC LOCATION OF THE STRUCTURE, HOWEVER SHALL NOT TAKE PRECEDENCE OVER STRUCTURAL DIMENSIONS.



**NOTES:**

THE WORK COVERED BY THESE PLANS INCLUDES REMOVAL OF THE EXISTING BRIDGE TO LIMITS SHOWN, CONSTRUCTION OF THE PROPOSED BRIDGE, TEMPORARY BRIDGE AND MAINTAINING TRAFFIC. ALL OTHER WORK IS INCLUDED IN THE ROAD PLANS THAT ARE A PART OF THIS CONTRACT.

THE DESIGN OF THIS STRUCTURE IS BASED ON 1.2 TIMES THE CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATION HL-93 LOADING WITH THE EXCEPTION THAT THE DESIGN TANDEM PORTION OF THE HL-93 LOAD DEFINITION SHALL BE REPLACED BY A SINGLE 60 KIP AXLE LOAD BEFORE APPLICATION OF THIS 1.2 FACTOR. THE RESULTING LOAD IS DESIGNATED HL-93 MOD. LIVE LOAD PLUS DYNAMIC LOAD ALLOWANCE DEFLECTION DOES NOT EXCEED 1/800 OF SPAN LENGTH.

THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

THE GROUND ADJACENT TO THE TRACKS AND STRUCTURE SHALL BE GRADED BY THE CONTRACTOR TO PROVIDE DRAINAGE.

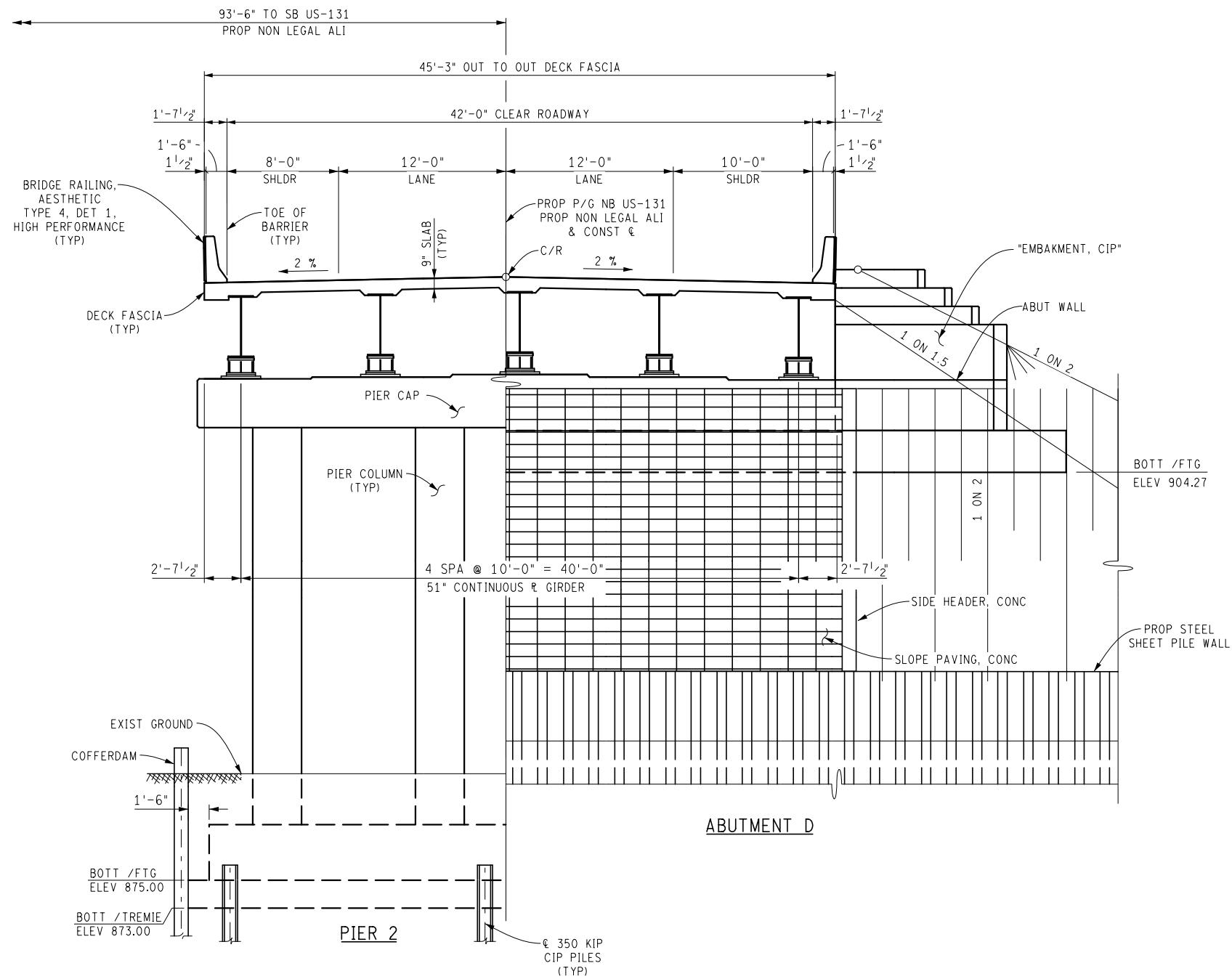
US-131 TRAFFIC IS TO BE DETOURED OVER A TEMPORARY BRIDGE. PROPOSED BRIDGE TO BE BUILT ONE BOUND AT A TIME. KL AVE TRAFFIC TO BE DETOURED.

PLAN ELEVATIONS REFER TO NAVD 88 DATUM.

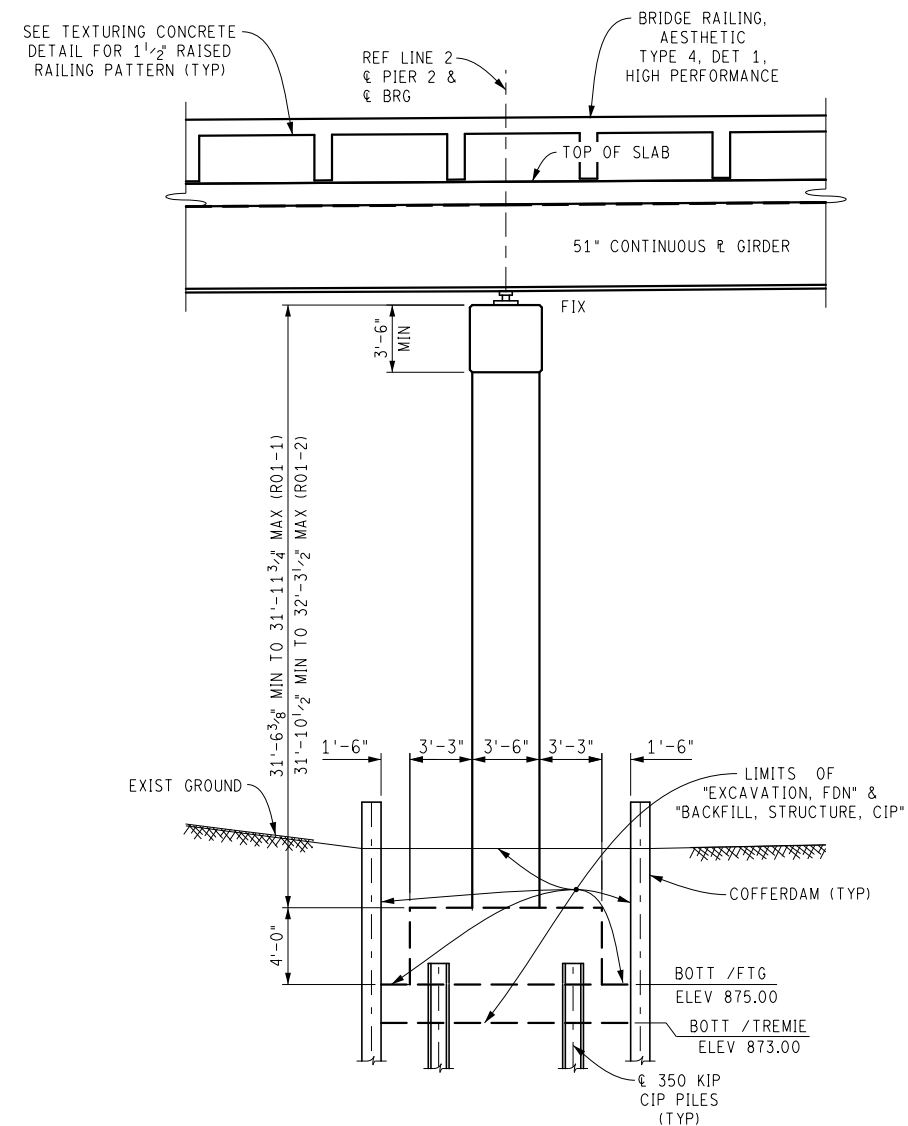
"BACKFILL, STRUCTURE, CIP", CUBIC YARDS.

MEASURES SHALL BE TAKEN TO PREVENT DEBRIS FROM FALLING FROM THE STRUCTURE.


THE INFORMATION CONCERNING THE MOVEMENTS OF TRAINS AND SPEED THEREOF DOES NOT REPRESENT ANY COMMITMENT ON THE PART OF THE RAILROAD TO CONTINUE THEM UNCHANGED, THEY ARE SUBJECT TO CHANGE WITHOUT NOTICE.

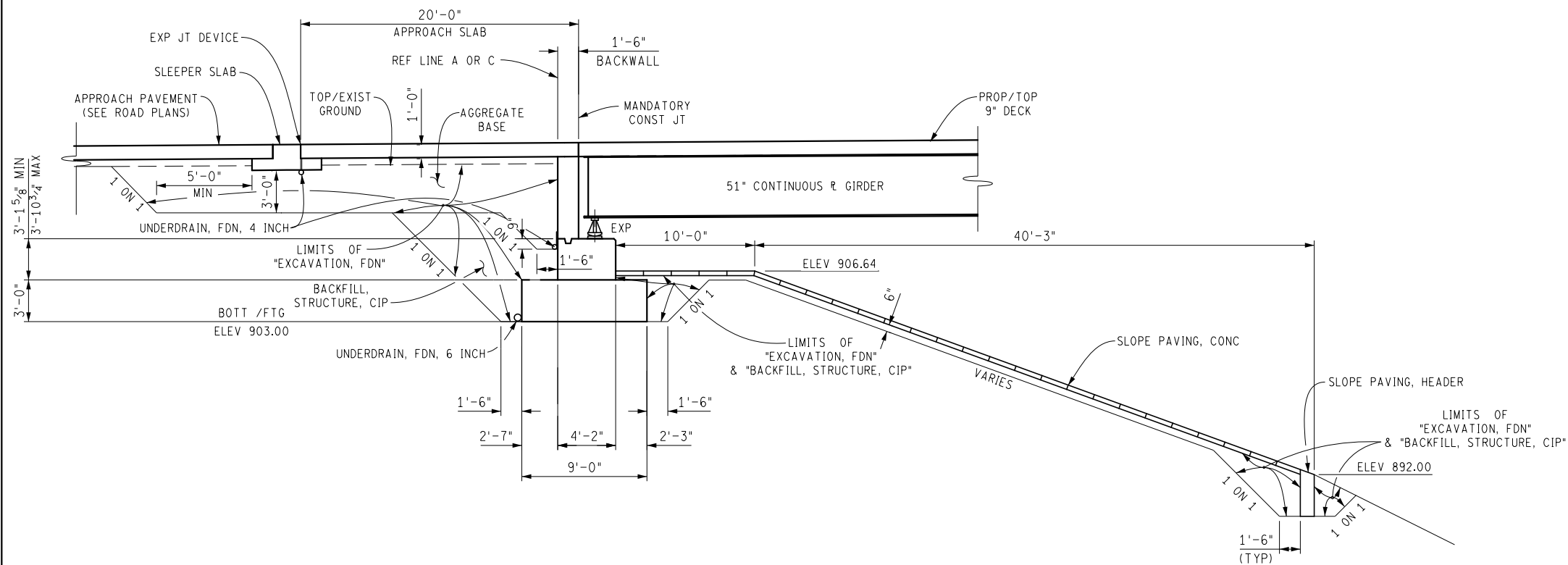


**SECTION A-A**  
(LOOKING UPSTATION)

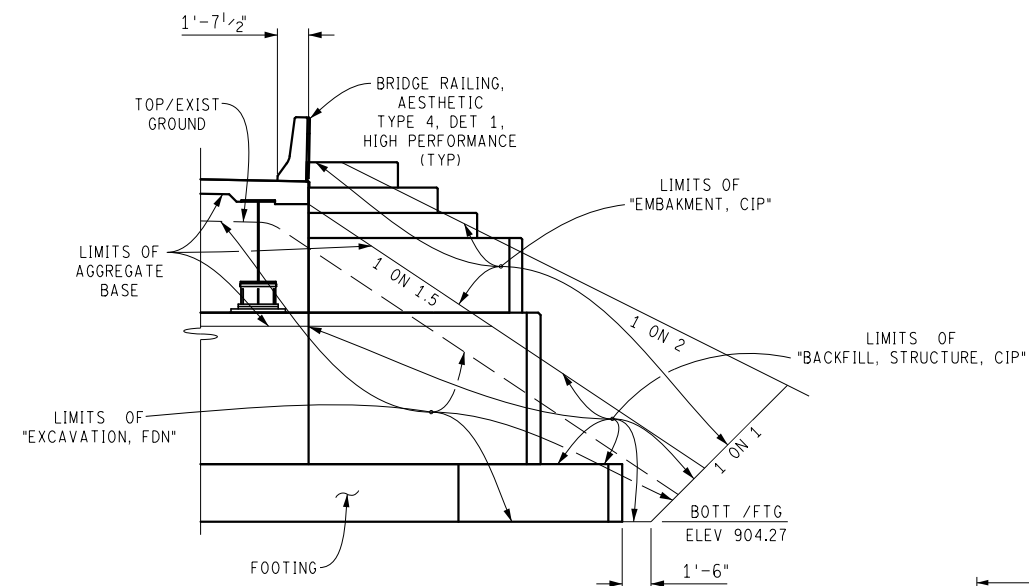


**TYPICAL PIER SECTION**

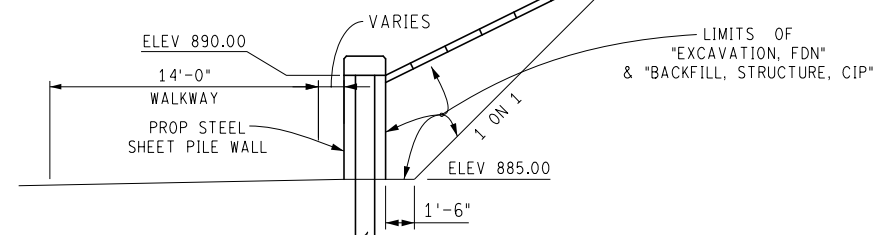
FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )									NO SCALE	DRAWN BY: S.HEMPSTEAD	DATE: 02/26/18	CS: R01-1 OF 39014	GENERAL PLAN OF STRUCTURE		DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION			CHK'D BY: R.GEHRCKE CORR BY: DLW	DESIGN UNIT: OCCHIUTO	JN: 122664A	NB US-131 OVER		R01-1 GPSTR 003	SECT 2
										FILE: r01_39014_gpstr.dgn	TSC: KALAMAZOO		KL AVE & AMTRAK RR			




**TYPICAL ABUTMENT SECTION**  
(ABUTMENT A & C)



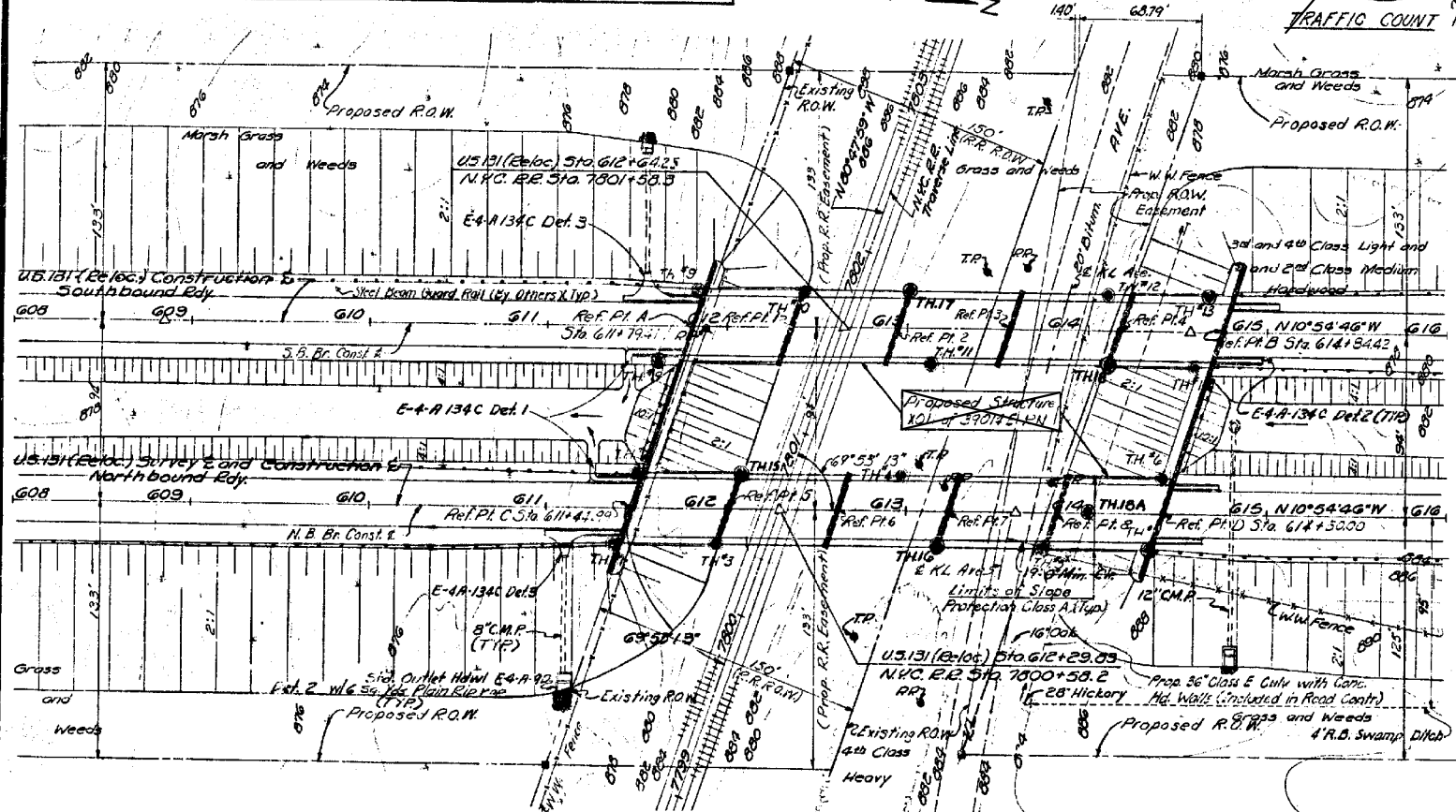
**TYPICAL RETURN WALL SECTION**  
(ABUT D SHOWN)



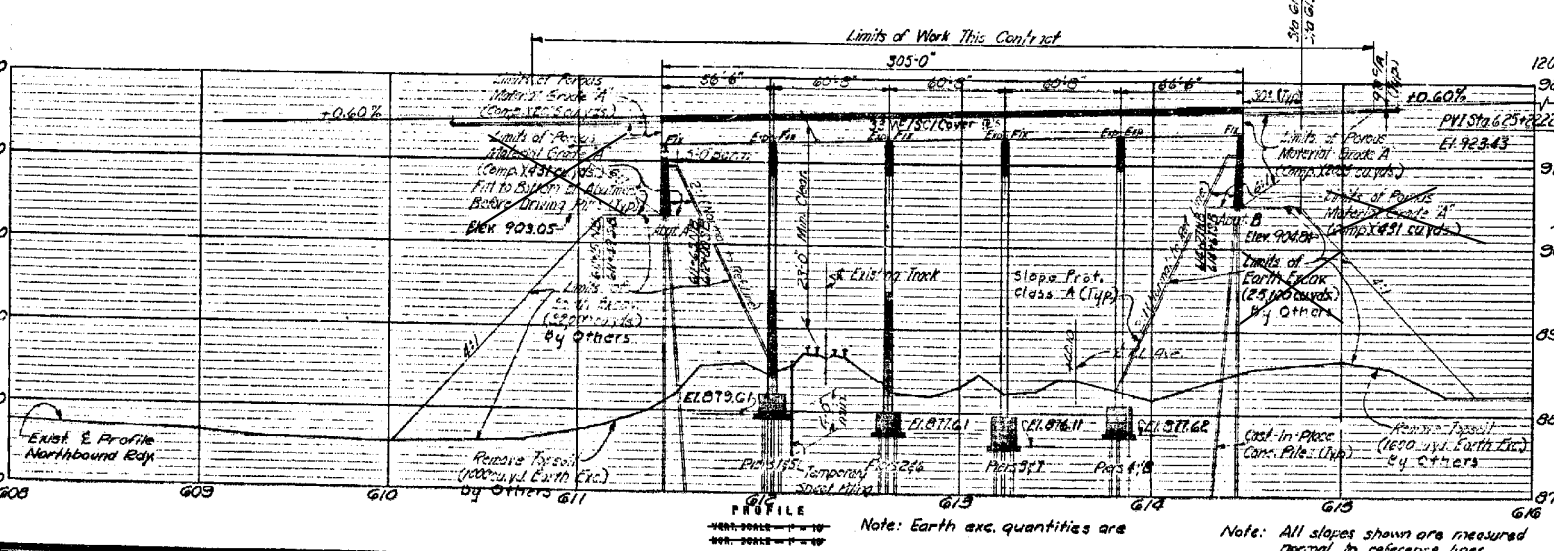
**TYPICAL ABUTMENT SECTION**  
(ABUTMENT B & D)

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )									NO SCALE	DRAWN BY: S. HEMPSTEAD	DATE: 02/26/18	CS: R01-1/-2 OF 39014	GENERAL PLAN OF STRUCTURE	DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION			CHK'D BY: R. GEHRCKE CORR BY: DLW	DESIGN UNIT: OCCHIUTO	JN: 122664A	NB/SB US-131 OVER	R01 GPSTR 005	SECT 2
										FILE: r01_39014_gpstr.dgn	TSC: KALAMAZOO		KL AVE & AMTRAK RR		

BENCH MARKS	EXISTING UTILITIES
Bench Mark No. 116 El. 909.75 R.N. Nail and B.M. Tag in N.E. Root of 40" Oak 615' Lt. of Sta. 601+40	Consumers Power Co., Pole line along the south side of the tracks carrying 3 wires on 2 cross-arms and 3 wire line on the north side on 1 cross-arm.
Bench Mark No. 117 El. 882.87 Boat spike in S Side of 21" Willow 548' Lt. of Sta. 615+73	New York Central Railroad, Pole line along the north side carrying 26 wires on 4 cross-arms.
	Michigan Bell Telephone Co., Pole line along the north side of K.L. Ave. carrying one cable.



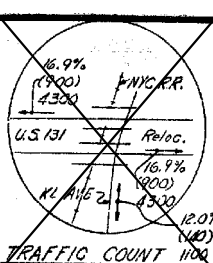
SITUATION PLAN  
SCALE 1"=40'



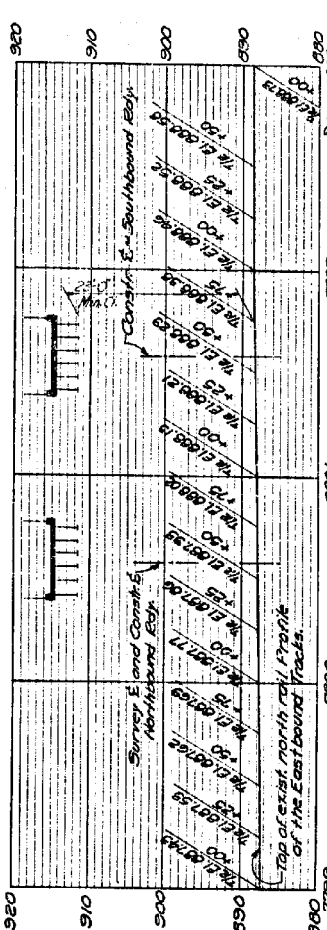
PROFILE  
VERT. SCALE 1"=10'  
HOR. SCALE 1"=40'

Note: Earth exc. quantities are

Note: All slopes shown are measured  
normal to reference lines.



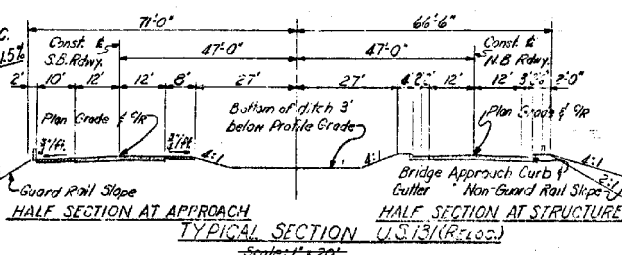
1980 (DHW) 1900  
1980 (ADT) 4300  
1980 (% Con. Merc. II) 16.7%



FINISHED GRADING PLAN - APPROACHES  
SCALE 1"=50'

GENERAL NOTES

- No work is to be performed by the Road Contractor from Sta. 607+00 to Sta. 617+00 until the structure is completed except as directed by the Project Engineer to expedite the completion of the proposed structure.
- This information concerning the movements of train and speed thereof does not represent any commitment on the part of the New York Central Railroad to continue their unchanged, inasmuch as they are subject to change without notice.
- Approximately 25 percent of contract costs represents a hazard to railroad operations.
- The work covered by this contract includes construction of the proposed bridge and placing permanent Class B sodding & slope, profile A to the limits shown. Fences and utilities are to be removed by others. Traffic to be maintained on K.L. Ave. except during erection of superstructure. All work except as noted above is to be done by others.



PASSENGER TRAINS	FREIGHT TRAINS
No. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

\*TRAIN MOVEMENTS

NO.	DESCRIPTION	DATE	BY
1	1.00	1.00	1.00
2	2.00	2.00	2.00
3	3.00	3.00	3.00
4	4.00	4.00	4.00
5	5.00	5.00	5.00
6	6.00	6.00	6.00
7	7.00	7.00	7.00
8	8.00	8.00	8.00
9	9.00	9.00	9.00
10	10.00	10.00	10.00

**MICHIGAN STATE HIGHWAY DEPARTMENT**  
U.S. 131 (RELOC.) CROSSING THE N.Y.C. R.R. 0.5 MILE WEST OF THE WEST LIMITS OF KALAMAZOO

HAZELET & ERDAL - CONSULTING ENGINEERS - BUREAU NO. 1207 N


APPROVED: *[Signature]* 2/6/68  
COORDINATING ENGINEER

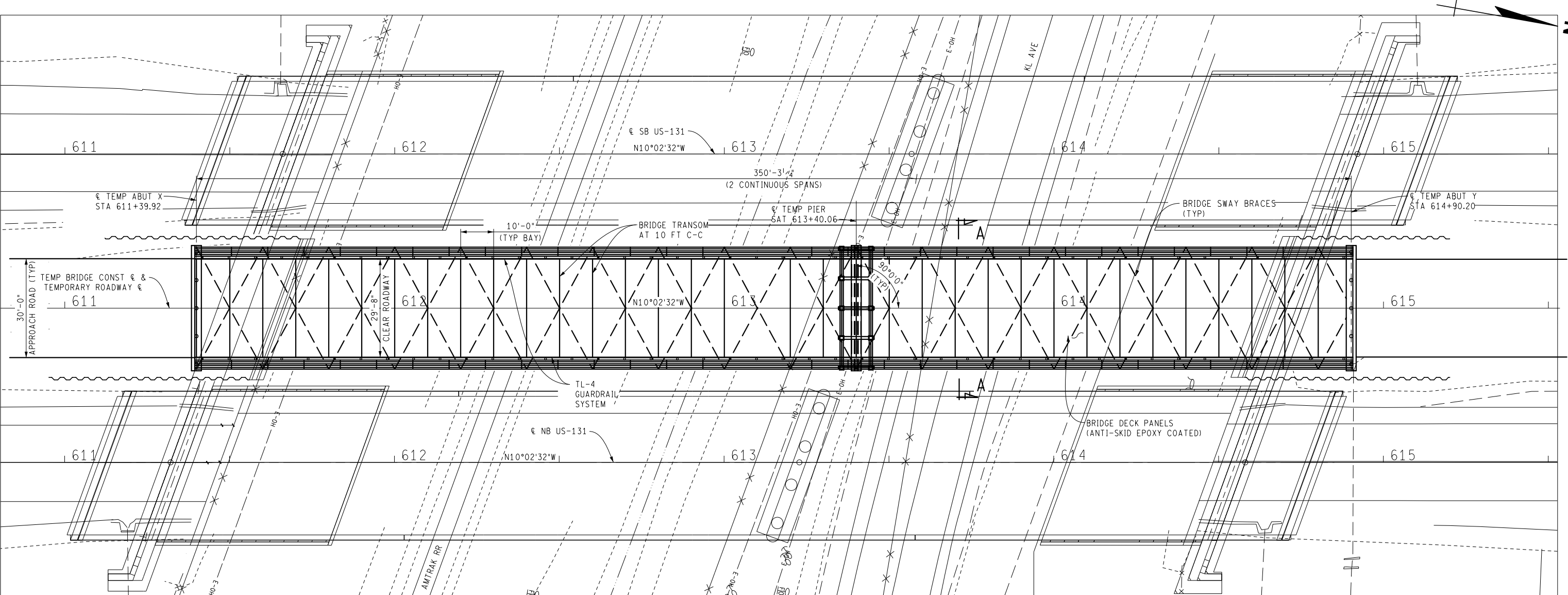
APPROVED: *[Signature]*  
ENGINEER OF DESIGN - CONSULTANTS

XOI of 39014A

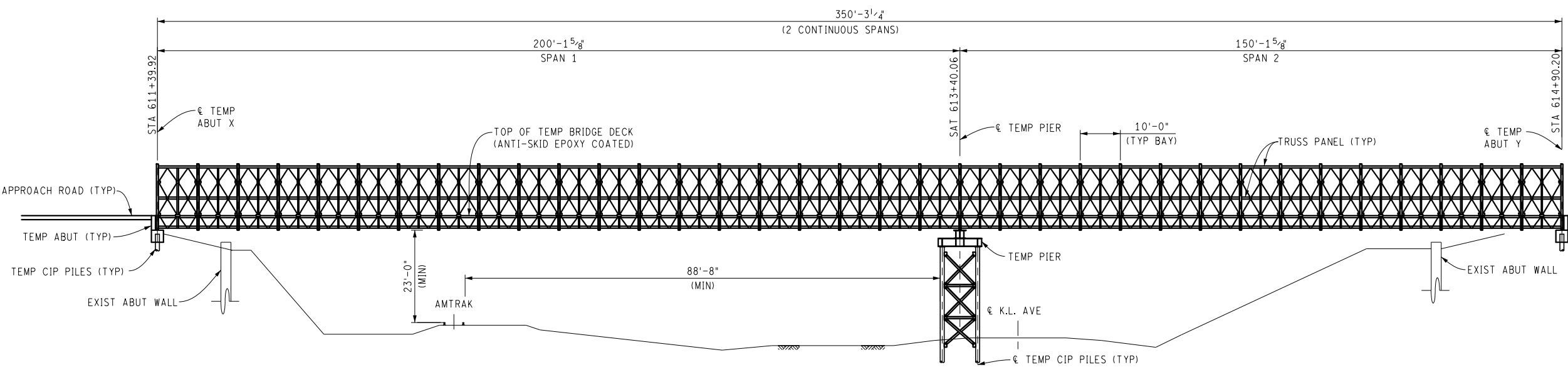
EXISTING

FOR INFORMATION ONLY  
DO NOT WORK FROM THIS SHEET.  
THE INFORMATION SHOWN HERE IS FOR  
REFERENCE ONLY.  
NO PAY ITEMS ARE SHOWN.

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							 Michigan Department of Transportation	NO SCALE	DRAWN BY: D.WILSON	DATE: 05/16/17	CS: R01-1/-2 OF 39014	EXISTING GENERAL PLAN OF SITE	DRAWING	SHEET	
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH			DESCRIPTION	CHK'D BY: R.GEHRCKE CORR BY: DLW	DESIGN UNIT: OCCHIUTO	JN: 122664A	US-131 NB & SB OVER AMTRAK RR	R01	SECT 2
													AND KL AVE	INFO	
														001	



PLAN



ELEVATION

**NOTES:**

THE TEMPORARY BRIDGE AND SUBSTRUCTURE MUST BE DESIGNED ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 6TH EDITION, 2012 AND CURRENT ADDENDUMS.

LIVE LOAD:  
2-LANES OF HL93

DEAD LOAD:  
TL-4 GUARDRAIL SYSTEM

TEMPORARY BRIDGE:


(A) PANEL CHORDS, DIAGONALS & VERTICALS, RAKER, DIAGONAL CHORD, REINFORCING CHORDS AASHTO M223 Gd 65

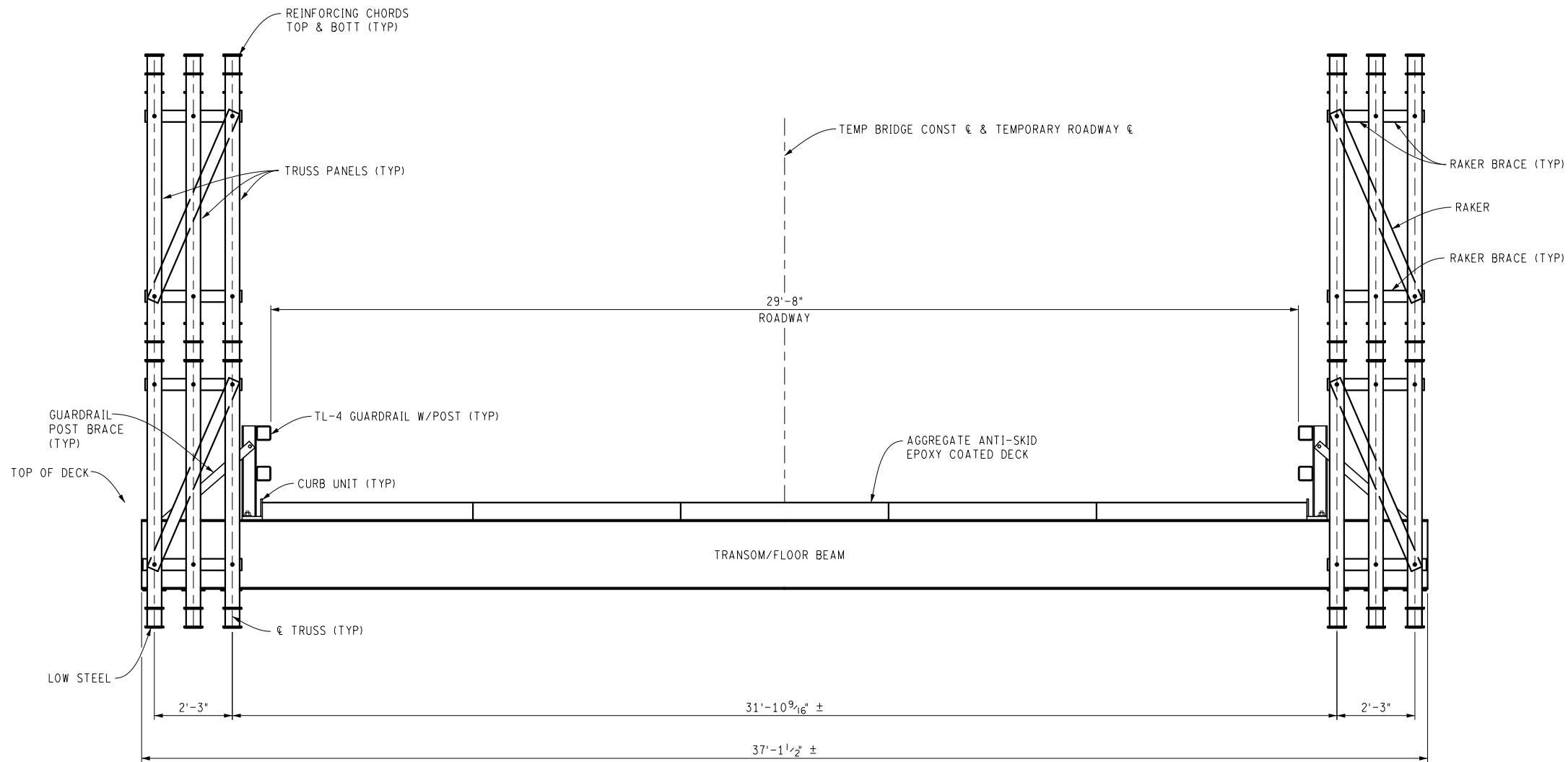
(B) DECKING, RAKER BRACE, TRANSOM, TOP CHORD BRACE, SWAYBRACE, TRANSOM BRACE AASHTO M223 Gd 50

(C) PANEL PINS  
ASTM A 193 Gd B7

(D) BOLTS  
AASHTO M164M - A325

FINISH:  
ALL MAJOR COMPONENTS GALVANIZED TO AASHTO M111-ASTM A123  
ALL BOLTS, ARE HOT DIPPED GALVANIZED. PINS ARE ELECTRO GALVANIZED.

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )				 Michigan Department of Transportation	NO SCALE	DRAWN BY: D.WILSON	DATE: 06/04/19	CS: R01-1/-2 OF 39014	TEMPORARY BRIDGE DETAILS		DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION			CHK'D BY: R.GEHRCKE CORR BY: DLW	DESIGN UNIT: OCCHIUTO	JN: 122664A	US-131 NB/SB OVER AMTRAK & KL AVE			
										FILE: r01 39014 temporay bridge.dgn	TSC: KALAMAZOO					



SECTION A-A

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



**NO SCALE**

DRAWN BY: D.WILSON  
 CHK'D BY: R.GEHRCKE CORR BY: DLW  
 FILE: r01 39014 temporay bridge.dgn

DATE: 06/04/19  
 DESIGN UNIT: OCCHIUTO  
 TSC: KALAMAZOO

CS: R01-1/-2 OF 39014  
 JN: 122664A

TEMPORARY BRIDGE DETAILS		DRAWING	SHEET
US-131 NB/SB OVER AMTRAK & KL AVE		R01 TEMP 002	SECT 2

